SEQUENCE LISTING

<110> BIOMERIEUX

INSERM (INSTITUT NATIONAL DE LA SANTE ET DE LA RECHERCHE MEDICALE)

<120> Nucleic acid and protein sequences from the HXHV virus and uses thereof

<130> HXHV1

<160> 37

<170> PatentIn version 3.1

<210> 1

<211> 1362

<212> DNA

<213> virus

<400> 1

actaccaaca gatcctcgac gaactgcgcc aggaactggc cgagcactac ctgctgcgca 60

gcgacctggc gatccaggat atcgcctgct acctcggttt caccgagtca cgctcgttcc 120

accgcagttt caagagctgg accgggcaga cgccgggcga gtttcgcgag agccggcgcc 180

gggataatcc gctgggctag cgcgatatgg ccggaaacgc cgtgccagcc agtagtcgag 240

actcaaccat cgccccgccc cgctgatgaa aagcgccacg agcgcagcca cggccggcac 300

cggtgaggtt tgccaatggc atatcagtcc tcccggcgcc cttactcgtt cttatcgcca 360

ctgcacgtgc cttcaatacg ggagccttcc tgcgccttct cggcagcggt caggctgtag 420

ccgccggcca gttcctgctc agcgaagggg atgctagtgg cgtgggcagt gaacgccatg 480

taactcggca gtgcagcgcc ctagggtctg ttgccgtttc gcgcacggcc gcgtcgaaac 540

ggcaacagac cctaggtggc agtcagggta ttggcatctc tccatcggtt tcgaatacgg 600

cgccaggttg gcgccctcgc agcaatggac gaggcaggga tgcgggcgtt acagcgggcg 660

aaaaagattt ctcgtagccc gatgaaatac gggggcgctt tgctcgccag caatcgcggc 720

tacgactgca tggacgcagg aggtagagcg aagcaggatg vvagagcaga aagctctctc 780

ccacagacac agaaacatcc accgcacggt aggaggtgat tcaaatgatc aggcatctcc 840

tctggttgga ctgcatggcc gctgcgagca cgggcgttgt ggttctgttg ctggcccccc 900

tggttgagcg gctggtatgc cctgcccggc gagctgctga gcttcatcgg cgcgatcaat 960

atcgcctacg cctgcttttc catttcgctg gcgattcgcc tgcgacgcgc cgaagcgcta 1020

atcaagctgc tggcagtggc caacggactc tgggcgttgg catgccttgg catcgctacg 1080

atcttttgccc cgctcatgac gctaccgggg ctttgtcatg tgctcggcga ggctgcatcc 1140

gtcgcaggcc tgggcatgct ggagtggaaa tggcgcaggc agctgctggt ggctggcgaa 1200

cagggcgttt cgactcagct tgtcgcggtc cagtaaccgt cacaggtatt caggcgaaga 1260

tccggcgatg gctgttcagg ccatcatcag ccctatcctt cagccctgtg aaagcggttc 1320

ttgcccgcgt gcttggccgc gtacctcggc cccgaccacg ct 1362

<210> 2

<211> 562

<212> DNA

<213> virus

<400> 2

tagtcgagac tcaaccatcg ctcccgcccc gctgatgaaa aggtcgctcg gctcaagcgc 60

gaactgtcgc gtgttaccaa ggaacgagat tttttacgag acgcggcagc gtacttcgcg 120

aagcaatcgc cgaacggtac gcggtgatcg agcgctgccg cagcgactac cccattggga 180

tgatgtgccg ctgccttcaa gtgtcgacca gtgggttcta cgcctgggcc aggcgaaagc 240

cggggccgcg tgcccaggcg aattcgcgtc tcttggagcg catgcgtgaa atccacgagg 300

acagccgagg catcatcggc gcgcgtcgga tgcaggaaga cctcgccgac gaaggcatgc 360

ccgccagctt gaatcgggtg gcccgcgtca tggccaaggc cgggcttcag ggctggccgc 420

ggcgaaagaa gcgtggcttt ccgcgcaagc cgccgacgcg tcgtcccgag ggcgtcagga 480

accttctgga gagggatttc tcggcgctcg aaccggagac gaagtgggta accgacatca 540

ccgagatcgt caccgacgag gg 562

<210> 3

<211> 571

<212> DNA

<213> virus

<400> 3
taccagaagt tcctcggcag ccatgccttg gtctgcagca tgagcgaggt cggccattgc 60

ggcgacaacg cagcatgtga gggattcttc gggctactga agcgagagtg gatctaccaa 120

acccgctaca gcacaagaag ggaagctcgg gccgacgtct ttgcctacct ggagcggttc 180

cacgacccgc ggatgcgccg tagagttgcg aggcgtgacc gggagtttca agccttaatc 240

aaaccgtccg cggaaacggg gtagaacccg agtccactta ccgccggtgc ggcgcaggtc 300

gccgccccac accacgcagg ttaagtcgag ttccgaaccc tgcacctgaa actcagtggc 360

gacgtcttcg aggtagtacg acgtcttcgc ggtgatacaa gaaacgtgtg tcctccttgc 420

cggccaaaag ccactggata aggtcgacct ttaagcgcat tcccatagcg tactgggacc 480

cctgatgccg aggcacgaag tagcaggtaa catcgtgtca tgcacaagca atcggatcat 540

gtcgtctcgc tcttttcatg agcggggcgg g 571

<210> 4

<211> 1314

<212> DNA

<213> virus

<400> 4
tagtcgagac tcaaccatcg ctcccgcccc gctgatgaaa aggtcgctcg gctcaagcgc 60

gaactgtcgc gtgttaccaa ggaacgagat tttttacgag acgcggcagc gtacttcgcg 120

aagcaatcgc cgaacggtac gcggtgatcg agcgctgccg cagcgactac cccattggga 180

tgatgtgccg ctgccttcaa gtgtcgacca gtgggttcta cgcctgggcc aggcgaaagc 240

cggggccgcg tgcccaggcg aattcgcgtc tcttggagcg catgcgtgaa atccacgagg 300

acagccgagg catcatcggc gcgcgtcgga tgcaggaaga cctcgccgac gaaggcatgc 360

ccgccagctt gaatcgggtg gcccgcgtca tggccaaggc cgggcttcag ggctggccgc 420

ggcgaaagaa gcgtggcttt ccgcgcaagc cgccgacgcg tcgtcccgag ggcgtcagga 480

accttctgga gagggatttc tcggcgctcg aaccggagac gaagtgggta accgacatca 540

ccgagatcgt caccgacgag ggaaaactcc atctctgcgt cgtcctcgac ctgtacagca 600

aactcatcat gggatggtcg atgcatcacc ggcaggatcg ccacatggtg gttcgcgcgg 660

tacagatggc ggtttggcag cgcgagggcg gcgacgaggt gatcctgcat tccgatcgcg 720

gcgggcagtt catcagcgat acgtaccaga agttcctcgg cagccatgcc ttggtctgca 780

gcatgagcga ggtcggccat tgcggcgaca acgcagcatg tgagggattc ttcgggctac 840

tgaagcgaga gtggatctac caaacccgct acagcacaag aagggaagct cgggccgacg 900

tctttgccta cctggagcgg ttccacgacc cgcggatgcg ccgtagagtt gcgaggcgtg 960

accgggagtt tcaagcctta atcaaaccgt ccgcggaaac ggggtagaac ccgagtccac 1020

ttaccgccgg tgcggcgcag gtcgccgccc cacaccacgc aggttaagtc gagttccgaa 1080

ccctgcacct gaaactcagt ggcgacgtct tcgaggtagt acgacgtctt cgcggtgata 1140

caagaaacgt gtgtcctcct tgccggccaa aagccactgg ataaggtcga cctttaagcg 1200

cattcccata gcgtactggg acccctgatg ccgaggcacg aagtagcagg taacatcgtg 1260

tcatgcacaa gcaatcggat catgtcgtct cgctcttttc atgagcgggg cggg 1314

<210> 5

<211> 285

<212> DNA

<213> virus

<400> 5
agtcgagact caaccatcgc tcccgccccg ctgatgaaaa ggtcgctcgg ctcaagcgcg 60

aactgtcgcg tgttaccaag gaacgagatt ttttacgaga cgcggcagcg tacttcgcga 120

agcaatcgcc gaacggtacg cggtgatcga gcgctgccgc agcgactacc ccattgggat 180

gatgtgccgc tgccttcaag tgtcgaccag tgggttctac gcctgggcca ggcgaaagcc 240

ggggccgcgt gcccaggcga attcgcgtct cttggagcgc atgcg 285

<210> 6

<211> 141

<212> DNA

<213> virus

<400> 6
tcgagactca accatcgctc ccgccccgct gatgaaaagg tcgctcggct caagcgcgaa 60

ctgtcgcgtg ttaccaagga acgagatttt ttacgagacg cggcagcgta cttcgcgaag 120

caatcgccga acggtacgcg g 141

<210> 7

<211> 825

<212> DNA

<213> virus

<400> 7
atgatgtgcc gctgccttca agtgtcgacc agtgggttct acgcctgggc caggcgaaag 60

ccggggccgc gtgcccaggc gaattcgcgt ctcttggagc gcatgcgtga aatccacgag 120

gacagccgag gcatcatcgg cgcgcgtcgg atgcaggaag acctcgccga cgaaggcatg 180

cccgccagct tgaatcgggt ggcccgcgtc atggccaagg ccgggcttca gggctggccg 240

cggcgaaaga agcgtggctt tccgcgcaag ccgccgacgc gtcgtcccga gggcgtcagg 300

aaccttctgg agagggattt ctcggcgctc gaaccggaga cgaagtgggt aaccgacatc 360

accgagatcg tcaccgacga gggaaaactc catctctgcg tcgtcctcga cctgtacagc 420

aaactcatca tgggatggtc gatgcatcac cggcaggatc gccacatggt ggttcgcgcg 480

gtacagatgg cggtttggca gcgcgagggc ggcgacgagg tgatcctgca ttccgatcgc 540

ggcgggcagt tcatcagcga tacgtaccag aagttcctcg gcagccatgc cttggtctgc 600

agcatgagcg aggtcggcca ttgcggcgac aacgcagcat gtgagggatt cttcgggcta 660

ctgaagcgag agtggatcta ccaaacccgc tacagcacaa gaagggaagc tcgggccgac 720

gtctttgcct acctggagcg gttccacgac ccgcggatgc gccgtagagt tgcgaggcgt 780

gaccgggagt ttcaagcctt aatcaaaccg tccgcggaaa cgggg 825

<210> 8

<211> 207

<212> DNA

<213> virus

<400> 8
atggtcgatg catcaccggc aggatcgcca catggtggtt cgcgcggtac agatggcggt 60

ttggcagcgc gagggcggcg acgaggtgat cctgcattcc gatcgcggcg ggcagttcat 120

cagcgatacg taccagaagt tcctcggcag ccatgccttg gtctgcagca tgagcgaggt 180

cggccattgc ggcgacaacg cagcatg 207

<210> 9

<211> 87

<212> DNA

<213> virus

<400> 9
atgccgaggc acgaagtagc aggtaacatc gtgtcatgca caagcaatcg gatcatgtcg 60

tctcgctctt ttcatgagcg gggcggg 87

<210> 10

<211> 87

<212> DNA

<213> virus

<400> 10
agcgcattcc catagcgtac tgggaccccc gatgccgagg cacgaagtag caggtaacat 60

cgtgtcatgc acaagcaatc ggatcat 87

<210> 11

<211> 198

<212> DNA

<213> virus

<400> 11
agtcgagttc cgaaccctgc acctgaaact cagtggcgac gtcttcgagg tagtacgacg 60

tcttcgcggt gatacaagaa acgtgtgtcc tccttgccgg ccaaaagcca ctggataagg 120

tcgaccttta agcgcattcc catagcgtac tgggaccccc gatgccgagg cacgaagtag 180

caggtaacat cgtgtcat 198

<210> 12

<211> 111

<212> DNA

<213> virus

<400> 12
gtggcgacgt cttcgaggta gtacgacgtc ttcgcggtga tacaagaaac gtgtgtcctc 60

cttgccggcc aaaagccact ggataaggtc gacctttaag cgcattccca t 111

<210> 13

<211> 84

<212> DNA

<213> virus

<400> 13
gcgatacgta ccagaagttc ctcggcagcc atgccttggt ctgcagcatg agcgaggtcg 60

gccattgcgg cgacaacgca gcat 84

<210> 14

<211> 795

<212> DNA

<213> virus

<400> 14
gagactcaac catcgctccc gccccgctga tgaaaaggtc gctcggctca agcgcgaact 60

gtcgcgtgtt accaaggaac gagatttttt acgagacgcg gcagcgtact tcgcgaagca 120

atcgccgaac ggtacgcggt gatcgagcgc tgccgcagcg actaccccat tgggatgatg 180

tgccgctgcc ttcaagtgtc gaccagtggg ttctacgcct gggccaggcg aaagccgggg 240

ccgcgtgccc aggcgaattc gcgtctcttg gagcgcatgc gtgaaatcca cgaggacagc 300

cgaggcatca tcggcgcgcg tcggatgcag gaagacctcg ccgacgaagg catgcccgcc 360

agcttgaatc gggtggcccg cgtcatggcc aaggccgggc ttcagggctg gccgcggcga 420

aagaagcgtg gctttccgcg caagccgccg acgcgtcgtc ccgagggcgt caggaacctt 480

ctggagaggg atttctcggc gctcgaaccg gagacgaagt gggtaaccga catcaccgag 540

atcgtcaccg acgagggaaa actccatctc tgcgtcgtcc tcgacctgta cagcaaactc 600

atcatgggat ggtcgatgca tcaccggcag gatcgccaca tggtggttcg cgcggtacag 660

atggcggttt ggcagcgcga gggcggcgac gaggtgatcc tgcattccga tcgcggcggg 720

cagttcatca gcgatacgta ccagaagttc ctcggcagcc atgccttggt ctgcagcatg 780

agcgaggtcg gccat 795

<210> 15

<211> 156

<212> DNA

<213> virus

<400> 15
ccggcaggat cgccacatgg tggttcgcgc ggtacagatg gcggtttggc agcgcgaggg 60

cggcgacgag gtgatcctgc attccgatcg cggcgggcag ttcatcagcg atacgtacca 120

gaagttcctc ggcagccatg ccttggtctg cagcat 156

<210> 16

<211> 201

<212> DNA

<213> virus

<400> 16
gggctggccg cggcgaaaga agcgtggctt tccgcgcaag ccgccgacgc gtcgtcccga 60

gggcgtcagg aaccttctgg agagggattt ctcggcgctc gaaccggaga cgaagtgggt 120

aaccgacatc accgagatcg tcaccgacga gggaaaactc catctctgcg tcgtcctcga 180

cctgtacagc aaactcatca t 201

<210> 17

<211> 171

<212> DNA

<213> virus

<400> 17
cgcctgggcc aggcgaaagc cggggccgcg tgcccaggcg aattcgcgtc tcttggagcg 60

catgcgtgaa atccacgagg acagccgagg catcatcggc gcgcgtcgga tgcaggaaga 120

cctcgccgac gaaggcatgc ccgccagctt gaatcgggtg gcccgcgtca t 171

<210> 18

<211> 95

<212> PRT

<213> virus

<400> 18

Ser Arg Asp Ser Thr Ile Ala Pro Ala Pro Leu Met Lys Arg Ser Leu
1 5 10 15

Gly Ser Ser Ala Asn Cys Arg Val Leu Pro Arg Asn Glu Ile Phe Tyr
20 25 30

Glu Thr Arg Gln Arg Thr Ser Arg Ser Asn Arg Arg Thr Val Arg Gly
35 40 45

Asp Arg Ala Leu Pro Gln Arg Leu Pro His Trp Asp Asp Val Pro Leu
50 55 60

Pro Ser Ser Val Asp Gln Trp Val Leu Arg Leu Gly Gln Ala Lys Ala
65 70 75 80

Gly Ala Ala Cys Pro Gly Glu Phe Ala Ser Leu Gly Ala His Ala
85 90 95

<210> 19

<211> 47

<212> PRT

<213> virus

<400> 19

Ser Arg Leu Asn His Arg Ser Arg Pro Ala Asp Glu Lys Val Ala Arg
1 5 10 15

Leu Lys Arg Glu Leu Ser Arg Val Thr Lys Glu Arg Asp Phe Leu Arg
20 25 30

Asp Ala Ala Ala Tyr Phe Ala Lys Gln Ser Pro Asn Gly Thr Arg
35 40 45

<210> 20

<211> 275

<212> PRT

<213> virus

<400> 20

Met Met Cys Arg Cys Leu Gln Val Ser Thr Ser Gly Phe Tyr Ala Trp
1 5 10 15

Ala Arg Arg Lys Pro Gly Pro Arg Ala Gln Ala Asn Ser Arg Leu Leu
20 25 30

Glu Arg Met Arg Glu Ile His Glu Asp Ser Arg Gly Ile Ile Gly Ala
35 40 45

Arg Arg Met Gln Glu Asp Leu Ala Asp Glu Gly Met Pro Ala Ser Leu
50 55 60

Asn Arg Val Ala Arg Val Met Ala Lys Ala Gly Leu Gln Gly Trp Pro
65 70 75 80

Arg Arg Lys Lys Arg Gly Phe Pro Arg Lys Pro Pro Thr Arg Arg Pro
85 90 95

Glu Gly Val Arg Asn Leu Leu Glu Arg Asp Phe Ser Ala Leu Glu Pro
100 105 110

Glu Thr Lys Trp Val Thr Asp Ile Thr Glu Ile Val Thr Asp Glu Gly
115 120 125

Lys Leu His Leu Cys Val Val Leu Asp Leu Tyr Ser Lys Leu Ile Met
130 135 140

Gly Trp Ser Met His His Arg Gln Asp Arg His Met Val Val Arg Ala
145 150 155 160

Val Gln Met Ala Val Trp Gln Arg Glu Gly Gly Asp Glu Val Ile Leu
165 170 175

His Ser Asp Arg Gly Gly Gln Phe Ile Ser Asp Thr Tyr Gln Lys Phe
180 185 190

Leu Gly Ser His Ala Leu Val Cys Ser Met Ser Glu Val Gly His Cys
195 200 205

Gly Asp Asn Ala Ala Cys Glu Gly Phe Phe Gly Leu Leu Lys Arg Glu
210 215 220

Trp Ile Tyr Gln Thr Arg Tyr Ser Thr Arg Arg Glu Ala Arg Ala Asp
225 230 235 240

Val Phe Ala Tyr Leu Glu Arg Phe His Asp Pro Arg Met Arg Arg Arg
245 250 255

Val Ala Arg Arg Asp Arg Glu Phe Gln Ala Leu Ile Lys Pro Ser Ala
260 265 270

Glu Thr Gly
275

<210> 21

<211> 69

<212> PRT

<213> virus

<400> 21

Met Val Asp Ala Ser Pro Ala Gly Ser Pro His Gly Gly Ser Arg Gly
1 5 10 15

Thr Asp Gly Gly Leu Ala Ala Arg Gly Arg Arg Arg Gly Asp Pro Ala
20 25 30

Phe Arg Ser Arg Arg Ala Val His Gln Arg Tyr Val Pro Glu Val Pro
35 40 45

Arg Gln Pro Cys Leu Gly Leu Gln His Glu Arg Gly Arg Pro Leu Arg
50 55 60

Arg Gln Arg Ser Met
65

<210> 22

<211> 29

<212> PRT

<213> virus

<400> 22

Met Pro Arg His Glu Val Ala Gly Asn Ile Val Ser Cys Thr Ser Asn
1 5 10 15

Arg Ile Met Ser Ser Arg Ser Phe His Glu Arg Gly Gly
20 25

<210> 23

<211> 29

<212> PRT

<213> virus

<400> 23

Arg Cys Glu Trp Leu Thr Ser Pro Gly Arg Ile Gly Leu Cys Ser Thr
1 5 10 15

Ala Pro Leu Met Thr Asp His Val Leu Leu Arg Ile Met
20 25

<210> 24

<211> 66

<212> PRT

<213> virus

<400> 24

Thr Ser Asn Arg Val Arg Cys Arg Phe Ser Leu Pro Ser Thr Lys Ser
1 5 10 15

Thr Thr Arg Arg Arg Arg Pro Ser Val Leu Phe Thr His Gly Gly Gln
20 25 30

Arg Gly Phe Ala Val Pro Tyr Pro Arg Gly Lys Leu Ala Asn Gly Tyr
35 40 45

Arg Val Pro Val Gly Ser Ala Ser Ala Arg Leu Leu Leu Tyr Cys Arg
50 55 60

Thr Met
65

<210> 25

<211> 37

<212> PRT

<213> virus

<400> 25

His Arg Arg Arg Arg Pro Leu Val Val Asp Glu Arg His Tyr Leu Phe
1 5 10 15

Arg Thr Asp Glu Lys Gly Ala Leu Leu Trp Gln Ile Leu Asp Val Lys
20 25 30

Leu Arg Met Gly Met
35

<210> 26

<211> 28

<212> PRT

<213> virus

<400> 26

Arg Tyr Thr Gly Ser Thr Gly Arg Cys Gly His Arg Pro Arg Cys Cys
1 5 10 15

Ser Arg Pro Arg Gly Asn Arg Arg Cys Arg Leu Met
20 25

<210> 27

<211> 265

<212> PRT

<213> virus

<400> 27

```
Leu Ser Leu Trp Arg Glu Arg Gly Ala Ser Ser Phe Thr Ala Arg Ser
1               5                  10                  15

Leu Arg Ser Ser Asp Arg Thr Val Leu Ser Arg Ser Lys Lys Arg Ser
            20                  25                  30

Ala Ala Ala Tyr Lys Ala Phe Cys Asp Gly Phe Pro Val Arg His Asp
        35                  40                  45

Leu Ala Ala Ala Gln Arg Leu Pro His Trp Asp Asp Val Pro Leu Pro
    50                  55                  60

Ser Ser Val Asp Gln Trp Val Leu Arg Leu Gly Gln Ala Lys Ala Pro
65                  70                  75                  80

Gly Arg Ala Trp Ala Phe Glu Arg Arg Lys Ser Arg Met Arg Ser Ile
                85                  90                  95

Trp Ser Ser Leu Arg Pro Met Met Pro Ala Arg Arg Met Gln Glu Asp
            100                 105                 110

Leu Ala Asp Glu Gly Met Pro Ala Ser Leu Asn Arg Val Ala Arg Val
        115                 120                 125

Met Ala Lys Ala Gly Leu Gln Gly Trp Pro Arg Arg Lys Lys Arg Gly
    130                 135                 140

Phe Pro Arg Lys Pro Pro Thr Arg Arg Pro Glu Gly Val Arg Asn Leu
145                 150                 155                 160

Leu Glu Arg Asp Phe Ser Ala Leu Glu Pro Glu Thr Lys Trp Val Thr
                165                 170                 175

Asp Ile Thr Glu Ile Val Thr Asp Glu Gly Lys Leu His Leu Cys Val
            180                 185                 190

Val Leu Asp Leu Tyr Ser Lys Leu Ile Met Gly Trp Ser Met His His
        195                 200                 205

Arg Gln Asp Arg Pro His Gly Gly Ser Arg Gly Thr Asp Gly Gly Leu
    210                 215                 220

Ala Ala Arg Gly Arg Arg Arg Gly Asp Pro Ala Phe Arg Ser Arg Arg
225                 230                 235                 240
```

Ala Val His Gln Arg Tyr Val Pro Glu Val Pro Arg Gln Pro Cys Leu
245 250 255

Gly Leu Gln His Glu Arg Gly Arg Pro
260 265

<210> 28

<211> 52

<212> PRT

<213> virus

<400> 28

Arg Cys Ser Arg Trp Met Thr Thr Arg Ala Thr Cys Ile Ala Thr Gln
1 5 10 15

Cys Arg Ser Pro Pro Ser Ser Thr Ile Arg Cys Glu Ser Arg Pro Pro
20 25 30

Cys Asn Met Leu Ser Val Tyr Trp Phe Asn Arg Pro Leu Trp Ala Lys
35 40 45

Thr Gln Leu Met
50

<210> 29

<211> 67

<212> PRT

<213> virus

<400> 29

Pro Gln Gly Arg Arg Phe Phe Arg Pro Lys Gly Arg Leu Gly Gly Val
1 5 10 15

Arg Arg Gly Ser Pro Thr Leu Phe Arg Arg Ser Leu Ser Lys Glu Ala
20 25 30

Ser Ser Gly Ser Val Phe His Thr Val Ser Met Val Ser Ile Thr Val
35 40 45

Ser Ser Pro Phe Ser Trp Arg Gln Thr Thr Arg Ser Arg Tyr Leu Leu
50 55 60

Ser Met Met
65

<210> 30

<211> 57

<212> PRT

<213> virus

<400> 30

Ala Gln Ala Leu Arg Phe Gly Pro Gly Arg Ala Trp Ala Phe Glu Arg
1 5 10 15

Arg Lys Ser Arg Met Arg Ser Ile Trp Ser Ser Leu Arg Pro Met Met
20 25 30

Pro Ala Arg Arg Ile Cys Ser Ser Arg Ala Ser Ser Pro Met Gly Ala
35 40 45

Leu Lys Phe Arg Thr Ala Arg Thr Met
50 55

<210> 31

<211> 20

<212> DNA

<213> Artificial sequence

<220>

<223> Sense primer

<400> 31
cccgccccgc tgatgaaaag 20

<210> 32

<211> 21

<212> DNA

<213> Artificial sequence

<220>

<223> Antisense primer

<400> 32
gcgatggttg agtctcgact a 21

<210> 33

<211> 17

<212> DNA

<213> Artificial sequence

<220>

<223> Antisense primer

<400> 33
aggtagcagg cgatatc 17

<210> 34

<211> 19

<212> DNA

<213> Artificial sequence

<220>

<223> Sense primer

<400> 34
ccttctggag agggatttc 19

<210> 35

<211> 20

<212> DNA

<213> Artificial sequence

<220>

<223> Antisense primer

<400> 35
tgttacctgc tacttcgtgc 20

<210> 36

<211> 20

<212> DNA

<213> Artificial sequence

<220>

<223> Sense primer

<400> 36
tagagttgcg aggcgtgacc 20

<210> 37

<211> 21

<212> DNA

<213> Artificial sequence

<220>

<223> Antisense primer

<400> 37
ccttatccag tggcttttgg c 21